COMMONWEALTH OF VIRGINIA
Department of Environmental Quality
Piedmont Regional Office

STATEMENT OF LEGAL AND FACTUAL BASIS

Virginia Electric and Power Company - Hopewell Power Station
107 Terminal Street, Hopewell, Virginia
PERMIT NO. VA-51019

Title V of the 1990 Clean Air Act Amendments required each state to develop a permit program to ensure that certain facilities have federal Air Pollution Operating Permits, called Title V Operating Permits. As required by 40 CFR Part 70 and 9 VAC 5 Chapter 80, Virginia Electric and Power Company has applied for a Title V Operating Permit for its Hopewell Power Station facility. The Department has reviewed the application and has prepared a draft Title V Operating Permit.

Engineer/Permit Contact:_____ Date:_____

Air Permit Manager:_____ Date:_____

Deputy Director:_____ Date:_____

1. Facility Information

Permittee

Virginia Electric and Power Company
5000 Dominion Boulevard
Glen Allen, Virginia 23060

Facility

Hopewell Power Station
107 Terminal Street
Hopewell, Virginia 23860

Responsible Official

Martin L. Bowling, Jr.
Vice President Operations Fossil and Hydro

Facility Contact

Pamela F. Faggert
Vice President and Chief Environmental Officer
(804) 273-3467

Count Plant Identification Number: 670-00063
Registration Number: 51019

2. Source Description

The Hopewell Power Station is an electric generating facility that produces electricity for sale to Dominion and process steam for sale. At maximum capacity, Hopewell Power Station produces electricity and up to 95,000 lbs/hr of process steam. The facility is located at 107 Terminal Street in the independent city of Hopewell, Virginia.

The facility includes two coal-fired stoker boilers with associated coal, lime, ash, and fuel handling systems, as well as several small diesel engine sources used to provide redundant or backup services. Although coal with a maximum sulfur content of 1.3 percent is the primary fuel for the stoker boilers, each boiler can fire natural gas for startup and warm standby. Two package auxiliary boilers, one 73.43 million Btu/hr distillate oil/natural gas boiler and one 90 million Btu/hr natural gas boiler, are located at the Hopewell Power Station to provide steam to the host during times when the plant is not generating electricity.

The two main coal-fired boilers are traveling grate stokers with a maximum permitted heat input of 391 million Btu/hr per boiler. Each boiler is equipped with an overfire air

system (staged combustion) and a selective non-catalytic reduction (SNCR) system for NO_x removal, a multi-cyclone and fabric filter baghouse for particulate control, and a spray dryer absorber (dry scrubber) to remove SO_2. Exhaust gases from both boilers are ducted to a common stack (chimney) and vented to the atmosphere. Continuous emissions monitors (CEMs) are used to monitor emissions of NO_x and SO_2 from each boiler and a continuous opacity monitor measures opacity from the combined boiler exhausts.

Coal for the main boilers is delivered to the facility by railcar. Coal handling and storage operations consist of railcar unloading, coal conveying and crushing, an active storage pile, and four coal silos. Lime for the spray dryer is delivered by truck and conveyed pneumatically to the lime silo. Ash generated in the combustion process is conveyed to the recycle bin or the ash storage silo. The ash from the ash storage silo is loaded to trucks for off-site disposal. Dust suppression measures for the material handling systems include water sprays, bag filters, and conveyor covers installed at critical points.

Two package auxiliary boilers fire primarily natural gas to provide process steam when the stoker boilers are not operating. The smaller package boiler (Unit Ref. No. 003) is also permitted to fire No. 2 fuel oil, although this capability is not currently employed. Each auxiliary boiler is equipped with low NO_x burners to limit NO_x emissions.

The diesel sources located at the site include a portable auxiliary generator engine, a backup boiler feed water pump, an emergency firewater pump, and a diesel welder engine.

The Hopewell Power Station facility completed initial performance testing in July of 1992 and began commercial operation as a cogeneration facility on July 1, 1992. The facility was purchased by Dominion in March of 2001 and began operating as Virginia Electric and Power Company's Hopewell Power Station. The facility is currently not being operated but may be started up at any time. The facility's emission units are listed in the following table:

UNIT/PROCESS	DESCRIPTION
Main Stoker Boiler Nos. 1 and 2	Coal/natural gas-fired traveling grate stoker boilers each rated at 391 million Btu/hr for the production of electricity and process steam
Auxiliary Boiler A	Natural gas/distillate oil-fired package boiler rated at 73.43 million Btu/hr which provides process steam during periods when the coal-fired boilers are not operating
Auxiliary Boiler B	Natural gas-fired package boiler rated at 90 million Btu/hr which provides process steam during periods when the coal-fired boilers are not operating
Diesel Auxiliary Generator	Redundant auxiliary backup rated at 1.4 million Btu/hr
Diesel Boiler Feedwater Pump	Rated at 1.2 million Btu/hr
Diesel Firewater Pump Engine	Rated at 0.68 million Btu/hr
Diesel Welder Engine	Rated at 0.21 million Btu/hr
Coal Unloading Building and Coal Stacker Tube	Coal handling sources each rated at 400 tons/hr
Coal Crusher House	Coal handling and crushing sources each rated at 150 tons/hr
Coal Silos (4) and Coal Pile	Four coal storage silos each rated at 180 tons capacity and a coal pile rated at 18,000 tons capacity
Ash Handling	One (1) Ash Recycle Bin rated at 26.5 tons, one (1) Ash Silo rated at 530 tons, and ash unloading rated at 60 tons/hr
Ash Conveying Blowers A, B, and C	Ash handling sources rated at 27.8 tons/hr each (A and B) and 13.7 tons/hr for C
Pebble Lime Silo	Storage silo rated at 135 tons capacity

3. Compliance History

The last inspection conducted on the facility by the Virginia Department of Environmental Quality, dated April 7, 1998, indicated the facility is in compliance with the permit and the regulations.

The facility has one New Source Review Permit:

< PSD permit dated November 4, 2002, for the construction and operation of a steam electricity cogeneration facility consisting of two (2) 391 million Btu/hr primary coal spreader stoker boilers with a multiple cyclone collector, a selective non-catalytic reduction (SNCR) system, a lime-water injection spray dryer, and a fabric filter; one (1) 73.43 million Btu/hr auxiliary natural gas/No. 2 oil boiler; one (1) 90 million Btu/hr auxiliary natural gas boiler, one (1) 1.4 million Btu/hr portable auxiliary diesel generator; one (1) 1.2 million Btu/hr diesel emergency boiler feedwater pump; one (1) 0.68 million Btu/hr diesel firewater pump; one (1) 0.21 million Btu/hr diesel welder engine; one (1) flyash recycle bin with bag filter; one (1) flyash/bottom ash silo with bag filter; a coal handling system (unloading, storage, conveying); an ash disposal and flue gas desulfurization product system; and a lime handling system (unloading, storage).

4. Emissions Inventory

An emissions update was received for calendar year 1996 and calendar year 1997. Hopewell Power Station submitted a letter dated September 22, 1997, which clarified an emission fee discrepancy. The 1996 emissions update included some rounding and truncating errors and, subsequently, slightly underestimated Hopewell Power Station's actual emissions for 1996. Revised emissions estimates were provided by Hopewell Power Station that resulted in a revised fee bill of $4,307.02. The original Title V fee bill was received by the source on September 9, 1997, and paid in full to the Virginia Department of Environmental Quality prior to the October 1, 1997, deadline.

5. Applicable Requirements

a. Emission Unit Applicable Requirements

The following units have been issued New Source Review Permits:

< Unit Nos. 001 and 002, two (2) spreader stoker boilers, each rated at 391 million BTU/hr, burning coal or natural gas (permit dated November 4, 2002), also regulated under 40 CFR 60 Subpart Da (Standards of Performance for Electric Utility Steam Generating Units);

< Unit No. 003, Auxiliary Boiler A, rated at 73.43 million BTU/hr, burning natural gas or distillate fuel oil (permit dated November 4, 2002), also

regulated under 40 CFR 60 Subpart Dc (Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units);

< Unit No. 005, Auxiliary Boiler B, rated at 90 million BTU/hr, burning natural gas (permit dated November 4, 2002), also regulated under 40 CFR 60 Subpart Dc (Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units);

< Unit No. 006, auxiliary diesel generator, rated at 1.4 million BTU/hr and 410 kW, burning diesel fuel (permit dated November 4, 2002);

< Unit No. 007, emergency diesel feedwater pump, rated at 1.2 million BTU/hr and 126 BHP, burning diesel fuel (permit dated November 4, 2002);

< Unit No. 008, diesel welder engine, rated at 0.21 million BTU/hr and 30 BHP, burning diesel fuel (permit dated November 4, 2002);

< Unit No. 009, portable diesel firewater pump engine, rated at 0.68 million BTU/hr and 208 BHP, burning diesel fuel (permit dated November 4, 2002);

< Unit Nos. 004a - 004h, coal unloading and coal pile stacking, each operation rated at 400 tons/hr; coal crushing operations rated at 150 tons/hr; four (4) coal silos, each rated at 180 tons; and a coal storage pile, capacity 16,000 tons (permit dated November 4, 2002);

< Unit Nos. 010, 012, and 013, ash conveyors A, B, and C, rated at 27.8 tons/hr, 27.8 tons/hr, and 13.7 tons/hr, respectively (permit dated November 4, 2002);

< Unit No. 014, ash unloading feeder, capacity 60 tons per hour (permit dated November 4, 2002);

< Unit No. 015, recycle ash bin, capacity 26.5 tons (permit dated November 4, 2002);

< Unit No. 016, ash silo - flyash/bottom ash storage, capacity 530 tons (permit dated November 4, 2002);

< Unit No. 017, lime silo for pebble lime storage, capacity 135 tons (permit dated November 4, 2002);

The conditions from this permit have been placed in the Title V permit as applicable requirements with the exception of the initial notification requirements and the initial testing requirements. These requirements have been satisfied, and are now obsolete.

There are three federal regulations applicable to some of the units at the Hopewell Power Station facility. These are as follows:

< 40 CFR 60 Subpart Da - Standards of Performance for Electric Utility Steam Generating Units
This standard applies to Unit Nos. 001 & 002 (two (2) 391 million BTU/hr spreader stoker boilers).

< 40 CFR 60 Subpart Dc - Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units
This standard applies to Unit Nos. 003 and 005 (Auxiliary Boiler A rated at 73.43 MMBTU/hr and Auxiliary Boiler B rated at 90 MMBTU/hr).

< 40 CFR 60 Subpart Y - Standards of Performance for Coal Preparation Plants
This standard may apply to the coal storage, coal conveying, and coal transfer and loading systems. This subpart requires an initial visible emission evaluation performed in accordance with 40 CFR 60 Subpart Y and 40 CFR 60, Method 9. This requirement has been satisfied. No other requirements of 40 CFR 60 Subpart Y apply to this source.

Other applicable requirements that apply to the source are the following provisions of the Commonwealth of Virginia State Air Pollution Control Board Regulations for the Control and Abatement of Air Pollution:

9 VAC 5 Chapter 50	New and Modified Stationary Sources
9 VAC 5 Chapter 50	Article 1: Visible Emissions and Fugitive Dust/Emissions
9 VAC 5 Chapter 50	Article 4: Stationary Sources
9 VAC 5 Chapter 50	Article 5: Environmental Protection Agency Standards of Performance for New Stationary Sources
9 VAC 5 Chapter 80	Permits for Stationary Sources
9 VAC 5 Chapter 80	Article 1: Federal Operating Permits for Stationary Sources

9 VAC 5 Chapter 80	Article 4: Insignificant Activities

b. Generally Applicable Requirements

Generally applicable requirements which apply to the source are the following provisions of the Commonwealth of Virginia State Air Pollution Control Board Regulations for the Control and Abatement of Air Pollution:

9 VAC 5 Chapter 170	General Administration
9 VAC 5 Chapter 80	Article 2: Permit Program Fees for Stationary Sources

c. Periodic Monitoring Requirements

Boilers 1, 2, 3, and 5 have been given an opacity requirement with a corresponding monitoring requirement utilizing COMs operated and maintained in accordance with 40 CFR 60.13 or utilizing EPA Reference Method 9. The smaller combustion sources have been given an informal opacity evaluation to be performed once per month that the units are in operation. An evaluation noting an excess emission condition will require corrective action. The process units also are required to make periodic informal opacity evaluations and must undertake corrective action for observed excess opacity conditions.

To ensure compliance with the emission limits for pollutants not monitored by CEMs, the source will be required to maintain records of the types and amounts of fuel combusted in the units and to calculate emissions monthly as the sum of each consecutive 12-month period. In addition, the permittee is required to either calculate short term emissions (lbs/hr and lbs/million Btu) daily or to demonstrate using maximum hourly fuel throughput or power output and emission factors that the units comply with the limitations as established in the Title V permit (see attached calculation spreadsheet). The permittee is required to maintain records of all calculations and assumptions used in such calculations.

Some of the combustion units have fuel sulfur limitations. Compliance with the sulfur requirements is demonstrated through recordkeeping. Compliance with the opacity requirements for the primary and auxiliary boilers is demonstrated through monitoring utilizing COMs. Compliance with the SO_2, NO_x, and CO_2 or O_2 emission limitations for the primary boilers shall be assured by utilizing CEMs in accordance with approved procedures in 40 CFR 60.13 and 60.47a.

Sources subject to NSPS requirements in 40 CFR 60 Subparts Da, Dc, and Y will demonstrate compliance through the specific subpart requirements.

6. Future Applicable Requirements

Auxiliary Boiler A (Unit Ref. No. 003) is permitted to fire distillate fuel oil in addition to natural gas. However, Hopewell Power Station has not exercised this firing option. At such time as Hopewell Power Station exercises such option, an initial performance evaluation will be required for the unit while firing distillate fuel oil.

7. Inapplicable Requirements

The initial notification and initial testing requirements listed in the New Source Review permits previously issued for this source are obsolete and are not applicable. Initial visible emission evaluations for coal processing under 40 CFR 60 Subpart Y are also obsolete and are not applicable because the requirement has been satisfied. These requirements have not been included in the Title V permit.

8. Exclusions

There are no specific exclusions for this source.

9. Determinations

There were no specific determinations made for this source.

10. Standard Terms and Conditions

There are no standard terms and conditions specific to this source category.

11. Insignificant Activities

The source has listed the following units as insignificant:

Emission Unit No.	Emission Unit Description	Citation (9 VAC_)	Pollutant Emitted (5-80-720 B)	Rated Capacity (5-80-720 C)
ISU-1	Turbine Lube Oil Reservoir	5-80-720 B.1	VOC	3,434 gallons
ISU-2	Solvent Based Parts Washer	5-80-720 B.1	VOC	55 gallons
ISU-3	Waste Oil Tank	5-80-720 C.2.a.	NA	500 gallons

Emission Unit No.	Emission Unit Description	Citation (9 VAC_)	Pollutant Emitted (5-80-720 B)	Rated Capacity (5-80-720 C)
ISU-4	Portable Welder Engine	5-80-720 B.1.	NO_x, SO_2, VOC, PM, PM-10, CO	0.21 million Btu/hr
ISU-5	Oil/Water Separator (Oil Sump)	5-80-720 C.2.a.	NA	280 gallons

12. NOx Budget Trading Program Applicability

Unit Ids 001 and 002 are applicable to the NOx Budget Trading requirements in the Virginia State Regulations 9 VAC 5 Chapter 140. These requirements have been added to the Title V permit as Section XIII.

13. Public Participation

The draft permit was noticed in the Richmond *Times-Dispatch* on September 7, 2002. The minor amendment dated December 1, 2003 did not require a public comment period. EPA was given 45-days to review the permit beginning on October 17, 2003. The 45-day review period ended on November 30, 2003. No comments were received.

14. Confidentiality

The source has not requested confidentiality for any information submitted in the Title V application or in support of the Title V application.